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OBSERVATIONS
ON
JAUNDICE;
PUBLISHED
AS
AN INAUGURAL ESSAY.
SUBMITTED
TO THE EXAMINATION
OF THE
REV. J. ANDREWS, D.D. PROVOST,
(PRO TEMPORE).
THE
TRUSTEES, AND MEDICAL PROFESSORS
OF THE
UNIVERSITY OF PENNSYLVANIA,
ON THE FIFTH DAY OF JUNE, 1805;
FOR
THE DEGREE
OF
DOCTOR OF MEDICINE.

BY JOHN COCKE, ✓
OF GEORGIA;

HONORARY MEMBER OF THE PHILADELPHIA MEDICAL SOCIETY.

PHILADELPHIA:

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.....
1805.

TO WILLIAM COCKE, M. D. &c.

OF SAVANNAH, GEORGIA.

THESE OBSERVATIONS

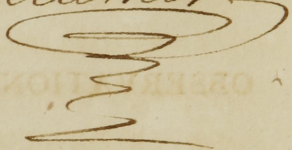
ARE INSCRIBED,

BY HIS MUCH OBLIGED

FRIEND AND BROTHER,

THE AUTHOR.

Presented to J. W. Mendenhall
from his friend the
Author



OBSERVATIONS ON JAUNDICE.

THE disease denominated by nosologists, jaundice, consists in a yellow colour of the skin, and tunica conjunctiva of the eyes. This preternatural appearance is the effect of bile in the blood vessels. It may be the consequence of whatever, after the secretion of this fluid, impedes its free emission through the excretory ducts of the liver into the intestines. Adults are more liable to jaundice than children, and females, than the male sex. Persons who lead sedentary lives are remarkably disposed to this morbid affection. The ingress of bile into the duodenum, in consequence of extreme inirritability of the bile ducts, depends almost entirely on pressure by the sto-

mach, peristaltic motion of the intestines, the action of the abdominal muscles, and perhaps more especially to the agitation given the hepatic system by bodily exercise. If we are correct in thus attributing to exercise so much in propelling the bile through the proper channels, it is obvious a sedentary life may cause such an accumulation, as to occasion irregular action in the organ, the consequence of which is frequently the disease we treat of. When inflammation affects the liver, a process it is extremely liable to in warm seasons, and in warm climates, its consistence is altered and its magnitude generally increased. This state of that viscus is succeeded by jaundice, arising from the pressure of the inflamed liver on the *pori biliarii*; thereby preventing the bile from readily entering the *ductus communis choledochus*. Some dissections have shewn these *pori biliarii* almost entirely obliterated. Distention, tumour, and schirrosity of adjacent parts, particularly of the pancreas are among the known exciting causes of this disease.

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Violent passions appear to act specifically on the liver. Anger sometimes so considerably increases the secretion of the biliary fluid, as to cause its regurgitation in the stomach, producing nausea, vomiting, &c. As whatever augments the hepatic action may produce jaundice, and as numerous facts have proven this augmentation to be sometimes the effect of the passions, we are justifiable in placing them among other exciting causes.

Luxurious living and the excessive use of intoxicating liquors, stand foremost as causes which prelude to jaundice, and that of the most unfavourable kind, as it is usually accompanied with a diseased structure of the liver. They probably act by sympathy, first disorganizing the stomach. Dr. Saunders observes "in the dissection of those who have been intemperate dram-drinkers, the diseased structure may be traced from the stomach along the course of the ductus communis, and I have frequently seen these ducts so contracted and thickened, that they

could not transmit bile." This duct the ductus communis, has in some dissections been found to be affected with stricture, not unlike the stricture that occurs in the urethra and œsophagus. Spasmodic affections of the duct have also been considered as causes of jaundice. The correctness of this opinion is however equivocal, since it has been proven by experiment, that this duct possesses no irritability when acted on by stimuli. The part of the duct which penetrates the duodenum may be affected with spasm, but we should distinguish between the spasm of the intestine and that of the duct itself, which in all probability is entirely passive.

But the most frequent cause of jaundice is a biliary calculi occasioning obstruction. They are commonly found in the cystic, more rarely in the ductus communis and still more so in the hepatic duct. The gall bladder often contains them and is sometimes found filled with them.

Their magnitude differs considerably. Gallstones have been seen nearly of the size of the gall-bladder itself. Small calculi, from the facility with which they may enter the ducts, most frequently produce the disease. Those however of considerable magnitude have been known to pass. Dr. Heberden mentions a dissection, where he found the ductus communis distended to an inch in diameter. Dr. Chester had a patient who recovered after passing a calculus of a large size. On dissecting this person some time after, he found this gall-stone had preternaturally entered the intestine from the gall-bladder.

It may be asked, if jaundice ever exists when there is no obstruction to the ducts. In violent inflammatory bilious fevers, a yellow colour of the skin is very frequent. Such fevers are also commonly attended with a considerable increase of the secretion of bile, evidenced by bilious vomiting and stools. In these cases, it is probable the redundancy of the secretion preternaturally stimulates the absorbents, and the bile is con-

veyed into the bloodvessels, in consequence of their excessive action. I am aware the yellow skin in fevers has been accounted for without the aid of the bile, on the supposition of the extreme vessels taking on a diseased and peculiar action. That the appearance of the skin may be materially changed by such action I will not deny, but conceive it possible, absorption takes place in most cases of this description.

Boerhaave and Morgagni, who believed all secreted fluids to pre-exist in the mass of blood, and that the functions of the glands were merely mechanically to separate those different fluids, supported the opinion that jaundice was occasionally the result of suspended secretion, the blood retaining its bilious quality and consequently giving yellowness to the skin, eyes, &c. Physiologists of the present day have exploded this opinion of glandular secretion, as incompatible with the nature of the animal œconomy. They have asserted with great probability of truth, that the blood is the source of all secreted fluids, varied by the peculiar action of the glands

whose office it is to prepare them. If the last mentioned theory of secretion be admitted as correct, it must unavoidably follow, if no bile be prepared the disease cannot exist. We must therefore conclude in every case of jaundice, bile is secreted and conveyed into the bloodvessels. A diversity of opinion has existed among physiologists as to the manner the bile enters these vessels. Some assert, it enters by regurgitation, others by absorption. The first opinion ranks among its supporters. Haller....he founded this opinion on the facility with which an injection thrown in by the hepatic ducts, will escape by the hepatic veins. Of the truth of this there is no doubt.

Dr. Saunders observes, water injected in this manner will return by the veins in a full stream, though very little force be exerted. The conclusion Haller draws from this circumstance, is certainly very rational and very probable. To ascertain with certainty this point, Dr. Saunders performed the following experiment:

A dog was procured; an incision was made in the abdomen and a ligature placed on the hepatic duct; the divided parts were then united by suture. Two hours after, blood was taken from the juglur vein and set to rest that it might separate into serum and crassamentum. Blood was then taken from the hepatic veins. On immersing peices of white paper into the serum of each, that taken from the hepatic veins gave much the deepest colour. This experiment proves very satisfactorily that the bile may regurgitate, and renders it extremely probable....it does so whenever the passage through the duct is impeded. A later physiologist has attempted to explain the phenomena of jaundice solely on the principle of absorption. He rested this opinion on an experiment where ligatures were applied around the hepatic duct, and on a subsequent examination of the absorbents of the liver, found them distended with bile. But this proves only what was previously granted, that the absorbent system is liable to increased action, and that it may and does take up bile and other substances when preternaturally stimulated. That this is correct we infer

from a diminution of the liver frequently discovered by dissection, which cannot be accounted for on other principles. But is this idea incompatible with the idea of regurgitation? The facts on which this is founded cannot be changed; they rest on the immutable base of accurate experiment. We therefore conclude, in the disease called jaundice, bile may be conveyed into the blood vessels by regurgitation as well as by obsorption.

SYMPTOMS.

THE yellow appearance of the skin and eyes, previously mentioned, are the most striking symptoms in the disease. The urine is high coloured, small in quantity, and stains linen of a yellow colour. From the deficiency of bile in the intestines, costiveness is apt to be a concomitant. The evacuations in many cases from the absence of bile have a clay-like appearance, and do not possess the usual fæculent odour. They have also a peculiar consistence, the cause of which cannot well be explained. "It is at-

tended with a sense of lassitude and languor, a sense of pain and tension, or weight and oppression about the præcordia; there is frequently much anxiety and some degree of difficulty in breathing." When pain in the hypochondriac or epigastric region is considerable, it is often accompanied with nausea and vomiting. Flatulency and indigestion are also frequent attendants. Fits of chilliness and hickup, sometimes affect patients labouring under the most unfavourable state of Jaundice. The pulse is quick, full, often tense, but sometimes slower than natural; particularly when a calculus is passing through the ducts.

Great arterial action with loss of strength, emaciation and melancholy are extremely unfavourable, and sometimes terminate in ascites, which may be relieved but cannot be cured.

The declension of this disease is marked by a gradual diminution of the sense of weight, oppression, or uneasiness about the præcorda, a return of appetite and digestion; the colour of

the urine becomes more diluted, it is secreted a larger quantity, the stools acquire a yellow colour, are more copious and more easily procured.

METHOD OF CURE.

THE first circumstances to be taken into consideration in the cure of jaundice, are the exciting causes. The most frequent we have before observed, are biliary calculi. Here however, we have to lament the imperfection of our science; for although experiments have proven some calculi to be soluble in spirit of wine, oil of turpentine, and in alkalis, the impossibility of a direct application of these substances to gall-stones in the system, and our ignorance of others more effectual, compels us to trust their removal to nature, inconsiderably assisted by art. Some substances may pass into the bladder slightly changed, and may act on the urinary calculi; but we have no facts to prove this observation correct, relative to the gall-bladder, as none of these solvents can be detected in the bile. To promote the discharge of calculi emetics should be administered. Some authors recommend

ipecacuanha in divided portions so as to excite a constant nausea, but ultimately to cause full vomiting. In support of this opinion, they adduce the efficacy of sea sickness in such cases. To facilitate the passage of gall-stones, purgatives have likewise been frequently employed. They may probably excite the action of the biliary ducts by sympathy. But as their action is inconsiderable, and a frequent repetition might produce injurious effects, much benefit is not to be expected from their administration. In these cases exercise is extremely serviceable. It should always be employed when circumstances will permit. When pain exists with debility, opium and the warm bath have been used with advantage. Blood-letting and the antiphlogistic regimen should be regulated by the pulse; in most cases they are found useful. Mercury, so as to produce ptyalism, is highly recommended by a gentleman of considerable reputation in the East Indies. He observes, this disease disappears as soon as this effect is produced. Jaundice from tumor or pressure of the surrounding parts, is most effectually treated by small doses of mercury.

